EPI-LOG

**Communicable Disease and Epidemiology News**
Published continuously since 1961
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**Vol. 45, No. 9** **September 2005**

**Focus on Vaccine-preventable Infections in Adults**

- **Update on Imported Measles in King County**
- **A Case of Tetanus**

## Update on Imported Measles in King County

On August 22, 2005, a health care professional (HCP) working at a stand-alone urgent care clinic in King County reported a suspected case of measles in an adult. The patient had returned 14 days earlier from a business trip to France. The patient was born in the early 1960s, and did not know his measles vaccination or disease history.

The patient presented on August 22, 2005 with a 4-day history of fever (maximum recorded, 102°F), cough, conjunctivitis, coryza, sore throat, and photophobia. A maculopapular rash had developed on his forehead 48 hours prior to the visit and had spread down to the chest. Koplik's spots were observed on the buccal mucosa. A blood specimen collected at that visit was negative for measles IgG antibody, indicating no prior measles immunity due to measles vaccination or infection. A test for measles IgM antibody was also negative. Because up to 20 percent of measles cases do not have detectable measles IgM antibodies until 72 hours after onset of rash, the results of this test could not definitively rule out measles.

The patient was isolated at home. By August 24th the rash had spread downward to the chest, back, and extremities, including the bottoms of his hands and feet. A repeat measles IgM test obtained on that day was positive, confirming the diagnosis. All household and health care contacts of the patient were reported either having received two doses of measles containing vaccine, a history of measles disease, or serologic evidence of immunity to measles.

A contact investigation conducted by Public Health identified two restaurants, the healthcare facility where the patient was seen on two visits, and the patient's worksite as potential public exposure locations. Notices were distributed for posting at the sites, and the specific locations and times of potential exposure were publicized through the media and the Public Health Information Exchange listserv. Potentially exposed persons were advised to assess their measles immunity, and to monitor their health for measles symptoms through September 12th, 2005, twenty-one days (one incubation period) past the last public exposure date. No secondary cases of measles have been identified.

Molecular typing of the measles virus isolate identified measles virus type D, an unusual type, which matched an isolate obtained from a person who developed measles the same week as this case after traveling to Yemen. Though it is not known for sure, a common link related to international travel may exist for these cases.

**Measles remains a common disease in much of the world, including some developed countries in Europe and Asia. Since many patients do not seek medical advice before travel, health care professionals should routinely ask patients about their travel habits. All adults and children, especially those who travel outside the United States, should be up to date on all immunizations, including measles immunization.**

## Tetanus case summary, September 2005

On August 21, 2005, an adult in his 60s developed jaw and neck muscle tightness and spasms, dysphagia, and difficulty speaking. On August 22, he presented to a local emergency department and was diagnosed with probable tetanus. Tetanus toxoid, tetanus immune globulin, and metronidazole were administered, and he was admitted to the intensive care unit. The symptoms progressed, with severe and frequent spasms including arching of the back, which required mechanical ventilation and induced paralysis. Subsequently, a tracheotomy was necessary. An estimated hospital stay of 1 to 2 months is expected. Although this case was not reported to Public Heath (!), it was detected through our emergency department syndromic surveillance system, allowing us to investigate and document the case.

The patient had two possible exposures in the three to twenty-one days (the incubation period for tetanus) preceding symptom onset. [Note: depending on the character, location, and extent of the wound, tetanus incubation can range from one day to several months.] Two to three weeks prior to onset he cut his hand with a knife while fishing. Though he cleaned the wound, bandaged it, and kept it covered with a glove during the day, he did not seek medical attention for the wound and at the time of hospitalization the wound was healed. Four days prior to onset, the man got a splinter under his fingernail while gardening. The splinter was still under his finger and was removed during his hospitalization.

It is unknown whether or not this patient received a primary series of tetanus vaccine as a child, however, family members thought any booster dose of tetanus vaccine would have been given at least twenty years prior to illness onset.

Tetanus is a serious and sometimes fatal disease of the central nervous system. *Clostridium tetani* (the organism that causes tetanus) is ubiquitous in soil and in the environment, typically entering the body through a wound. This case is a good reminder that the entry wound does not need to be a serious wound, and that the risk for tetanus infection is not confined to "classic" tetanus-prone wounds, such as "stepping on a dirty nail."

**Because most people do not seek medical care for uncomplicated, seemingly minor (yet potentially contaminated) wounds, routinely monitoring your patients' vaccination status, and keeping tetanus immunizations up to date is the key to prevention of this severe and potentially fatal disease.**

Almost all tetanus cases occur in persons who were either never immunized, or who received a primary series, but had not received a booster dose in at least ten years. Assessment and immunization of adults is particularly important; between 1980 and 2000, 70% of tetanus cases were among persons 40 years of age or older.

Assessment of tetanus vaccine history is also important during wound management. Tetanus wound management depends on both vaccine history and the condition of the wound (clean and minor; all other wounds) to determine whether vaccine and/or tetanus immune globulin (TIG) are indicated. If this patient had sought medical care for his wound, both TIG and Td would have been recommended because of the lack of evidence of adequate immunization, and because of the potential contamination of these wounds with soil.

While any wound is a potential source of tetanus, wounds contaminated with dirt, feces, soil or saliva (including animal bites), and wounds with devitalized tissue, including necrotic or gangrenous wounds, frostbite, crush and avulsion injuries, and burns, are at increased risk for contamination with *C. tetani*. Diagnosis is purely clinical because the organism is rarely detected from the wound site, and any antibody response is not detectable. Tetanus disease does not confer immunity, and persons diagnosed with tetanus should begin or complete active immunization with tetanus toxoid during convalescence.

**TETANUS WOUND MANAGEMENT**

| | Clean, minor wounds | | All other wounds | |
|---|---|---|---|---|
| **Vaccination History** | **Td** | **TIG** | **Td** | **TIG** |
| Unknown or < 3 doses | Yes | No | Yes | Yes |
| 3+ doses | No* | No* | No** | No |

* Yes, if > 10 years since last dose
** Yes, if > 5 years since last dose

**Disease Reporting**

AIDS/HIV .....(206) 296-4645
STDs.....(206) 731-3954
TB .....(206) 731-4579
All Other Notifiable Communicable Diseases (24 hours a day)..... .....(206) 296-4774
Automated reporting line for conditions not immediately notifiable .....(206) 296-4782

**Hotlines**

Communicable Disease.....(206) 296-4949
HIV/STD.....(206) 205-STDS

**Public Health-Seattle & King County Online Resources**

**Home Page:** www.metrokc.gov/health/
**The *EPI-LOG***: www.metrokc.gov/health/providers
**Communicable Disease listserv (PHSKC INFO-X) at:** mailman.u.washington.edu/mailman/listinfo/phskc-info-x
**West Nile Virus Updates and Current Testing Guidelines:** www.metrokc.gov/health/westnile/advisories.htm

**Reported Cases of Selected Diseases, Seattle & King County 2005**

| | Cases Reported in July | | Cases Reported Through July | |
|---|---|---|---|---|
| | 2005 | 2004 | 2005 | 2004 |
| **Campylobacteriosis** | 38 | 37 | 218 | 178 |
| **Cryptosporidiosis** | 4 | 4 | 55 | 20 |
| **Chlamydial infections** | 486 | 517 | 3,802 | 3,480 |
| **Enterohemorrhagic *E. coli* (non-O157)** | 0 | 0 | 5 | 0 |
| ***E. coli* O157: H7** | 3 | 8 | 15 | 26 |
| **Giardiasis** | 19 | 8 | 92 | 81 |
| **Gonorrhea** | 187 | 94 | 1,171 | 745 |
| ***Haemophilus influenzae* (cases <6 years of age)** | 0 | 0 | 2 | 2 |
| **Hepatitis A** | 2 | 0 | 14 | 6 |
| **Hepatitis B (acute)** | 0 | 1 | 16 | 16 |
| **Hepatitis B (chronic)** | 63 | 59 | 446 | 414 |
| **Hepatitis C (acute)** | 1 | 1 | 6 | 7 |
| **Hepatitis C (chronic, confirmed/probable)** | 122 | 88 | 856 | 842 |
| **Hepatitis C (chronic, possible)** | 32 | 25 | 286 | 235 |
| **Herpes, genital (primary)** | 80 | 51 | 543 | 489 |
| **HIV and AIDS (new diagnoses only)** | 30 | 38 | 323 | 286 |
| **Measles** | 1 | 0 | 1 | 6 |
| **Meningococcal Disease** | 1 | 0 | 13 | 11 |
| **Mumps** | 0 | 1 | 1 | 1 |
| **Pertussis** | 37 | 17 | 192 | 147 |
| **Rubella** | 0 | 0 | 1 | 0 |
| **Rubella, congenital** | 0 | 0 | 0 | 0 |
| **Salmonellosis** | 22 | 35 | 149 | 159 |
| **Shigellosis** | 10 | 7 | 45 | 43 |
| **Syphilis** | 19 | 15 | 108 | 85 |
| **Syphilis, congenital** | 0 | 0 | 0 | 0 |
| **Syphilis, late** | 9 | 3 | 53 | 42 |
| **Tuberculosis** | 13 | 4 | 77 | 89 |

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